

a high-emissivity layer formed by a material having a high emissivity [is] provided on at least one of said internal surface of said sensor element and the surface of said heater;

wherein said high-emissivity layer provided on said internal surface of said sensor element has an emissivity of 0.3 or more, and said high-emissivity layer provided on said surface of said heater is 0.6 or more;

wherein a clearance is formed between the ~~high-emissivity layer~~ and the internal electrode, the clearance being 0.1 mm or more; ^{heater} ~~and~~

a porosity of the high-emissivity layer being set to a predetermined value to keep a diffusion of air into the internal electrode; ~~and~~

~~said heater being made of non-oxide type ceramic.~~

6. (Amended) An oxygen concentration detector comprising:
a sensor element including a solid electrolyte and an external electrode[s] provided on an external surface thereof;

a heater provided adjacent to an internal surface of said sensor element; and

an electrode containing a material having a high emissivity is provided on said internal surface of said sensor element;

wherein said electrode provided on said internal surface of said sensor element has an emissivity of 0.3 or more;

A2 D
D wherein a clearance is formed between the ~~high-emissivity layer~~ ^{heater} and the internal electrode, the clearance being 0.1 mm or more;

D a porosity of the high-emissivity ~~layer~~ ^{material} being set to a predetermined value to keep a diffusion of air into the internal electrode.

Sub F1
D 9. (Amended) An oxygen concentration detector comprising:
a sensor element including a solid electrolyte and external and internal electrodes provided on external and internal surfaces thereof, respectively;

D A3 a heater provided adjacent to said internal surface of said sensor element ~~the heater being made of non-oxide type ceramic;~~

wherein said heater consists of one or more materials selected from a group consisting of silicon nitride, aluminum nitride[,] and silicon carbide [nitride].

D A4 11. An oxygen concentration detector according to claim 9, wherein said material ~~having~~ [high emissivity] has an emissivity of 0.6 or more.

12. (Amended) An oxygen concentration detector comprising:
a sensor element including a solid electrolyte and external
and internal electrodes provided on external and internal
surfaces thereof, respectively;

a heater provided adjacent to said internal surface of said
sensor element;

wherein said internal electrode consists of a material
having a high emissivity, and said external electrode consists of
a material having an emissivity lower than the emissivity of said
internal electrode; and

wherein a clearance is formed between the ^{heater} ~~high-emissivity~~
~~layer~~ and the internal electrode, the clearance being 0.1 mm or
more.

13. An oxygen concentration detector according to claim 12,
wherein said internal electrode consists of platinum black or
[and] ruthenium oxide.

14. An oxygen concentration detector according to claim 12,
wherein a [said] surface of said internal electrode facing [to]
said external electrode consists of a material having an
emissivity higher than the emissivity of said external electrode.

Sub E2
16. (Amended) An oxygen concentration detector comprising:
a sensor element including a solid electrolyte and external
and internal electrodes provided on external and internal
surfaces thereof, respectively;

a heater provided adjacent to an internal surface of said
sensor element;

wherein at least ^{a surface} ~~said surface~~ of said internal electrode
consists of a material having a high emissivity, and a layer
consisting of a material having an emissivity lower than the
emissivity of said internal electrode is provided as an outermost
layer of said sensor element; and

wherein ^{heater} ~~a clearance is formed between the high-emissivity~~
~~layer and the internal electrode, the clearance being 0.1 mm or~~
more.

Kindly add the following new claims:

Sub F3
--18. An oxygen concentration detector according to claim
1, wherein the thickness of the high-emissivity layer is in the
range of 5-20 μm .

A7
19. An oxygen concentration detector according to claim 1,
wherein the porosity of the high-emissivity layer is 10% or
more.--